

REMARKS

The applicant appreciates the examiner's review of the prior art and requests reconsideration of the pending claims in view of the following remarks.

The office action rejected claims 1, 6-8, 10, 13, 14, 16, 18-19 as being anticipated by US Patent Number 5,535,771 (Purdy et al., hereinafter "Purdy").

In summary, amended claim 1 defines a medical valve having a fluid channel between the proximal port and a distal port, and a variable volume fluid chamber that is at least a part of the fluid channel. The plug radially expands the resilient member when the valve transitions from the closed mode (i.e., when the valve is closed) to the open mode (i.e., when the valve was opened). This expansion respectively causes both the fluid chamber and the fluid channel to have larger volumes when in the open mode than when in the closed mode.

Purdy shows no such valve. Applicant agrees that Purdy shows a valve 10, but it neither mentions nor suggests the volumetric relationships of its internal flow path as specified by claim 1. In fact, Purdy uses the word "volume" only once -at line 11 of column 7-and only with regard to the total internal volume of the valve 10.

More specifically, the Purdy valve 10 has a body 20 containing a resilient member 42 that controls fluid flow through the body interior. To that end, as shown in figure 2, the resilient member 42 has a proximal end 46 that normally forms a fluid seal against a proximal shoulder 32 of the body 20. Insertion of a delivery device 70 against a pusher 50 therefore urges the proximal end 46 distally, consequently removing it from its sealing contact with the shoulder 32. As shown by the arrows in figure 4, when the valve is in an open mode, fluid flows around the exterior surface of the resilient member 42 to the distal end of the valve 10.

The office action suggests that the space between the resilient member 42 and the inner surface of the body 20 is a "variable volume fluid chamber . . . having a larger volume when in the open mode than when in the closed mode."

The rationale for this conclusion is that "when resilient member 42 is pushed down by plug 57, a flow path is opened, such flow path increasing the volume of fluid chamber 31."

The applicants agree that such a new space (i.e., only the small space formed between the shoulder 32 and proximal and 46) appears to have a larger volume when opened than when closed. However, it is inherent that the accompanying radial expansion of the resilient member 42 necessarily decreases much of the remaining volume of the variable volume chamber. This remaining volume appears to be significantly larger than the volume of the new space formed by opening the valve and thus, may cause the variable volume chamber to have a decreasing volume when opened.

Despite these observations, Purdy neither discloses nor suggests that the volume of the entire variable volume chamber increases or decreases when the valve is opened--Purdy simply is silent as to the volumetric relationships. Asserting anything to the contrary impermissibly expands the disclosure of Purdy beyond its reasonable interpretation.

In a similar manner, Purdy makes no suggestion or mention that the entire fluid channel volume increases or decreases when the valve is opened. As noted above, Purdy simply is silent as to this volumetric relationship. Accordingly, claim 1 is allowable in view of Purdy. Moreover, dependent claims 2-9 also are allowable for the same reasons.

In a manner similar to claim 1, amended claim 10 and amended 16 (i.e., in so-called "means plus function" format) also define medical valves respectively having variable volume fluid chambers and fluid channels with the above noted volumetric requirements. Accordingly, claims 10 and 16 also are allowable over Purdy the same reasons as discussed above with regard to claim 1. Moreover, dependent claims 11-15, and 17-21 also are allowable for the same reasons.

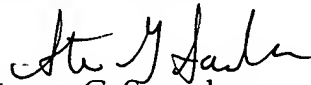
The office action also rejected claims 1, 7-8, 10, 13-14, 16, 18-19 as being anticipated by US Patent Number 4,842,591 (Luther). Again, in a manner similar

to Purdy, Luther neither suggests nor discloses any volumetric relationship of its valve's internal fluid channel. In fact, Luther does not even use the word "volume" anywhere within its specification. Instead, in a matter-of-fact, cursory way, Luther simply describes a valve having a resilient septum 33 with a slit 34 that opens and closes in response to force applied by a movable plug 35.

Inspection of the figures reveals no further information about the fluid channel volume. It is noted that the aperture opens, which may appear to enlarge a volume, but the remaining resilient material formerly within that space appears to have moved to another location within the interior. This material shift possibly may offset the volume provided by opened slit, or even take up more space. Despite this, reading Luther as having a fluid channel with a larger volume when opened than when closed impermissibly expands its disclosure beyond a reasonable interpretation. Such an interpretation cannot be reasonably inferred.

Accordingly, claims 1-21 are allowable over the cited art. The application therefore is in condition for allowance and such action is earnestly solicited. Applicants request that the examiner contact applicant's attorney, Steven Saunders, if it will assist examination of the pending claims.

Respectfully submitted,


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